PRICES AND RECONSTRUCTION

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I. Problems and Methods

The chief aim of this paper is to consider what basis we have for forecasting the probable course of wholesale prices in the United States during the next few years.

Upon this problem past experience sheds a most uncertain light. Prices fell after the Civil War in this country and after the Napoleonic wars in England. Indeed, the fall began in both of these cases before the fighting stopped.[1] Forecasts based upon what happened in these two wars have already been vitiated by the rise of prices in 1919. Present conditions differ in so many respects from conditions at the close of the Napoleonic and the Civil wars that close correspondence between the price fluctuations then and now is not necessarily to be expected. Consequently we stand a better chance of forming correct anticipations by analyzing present conditions than by recapitulating the experience of fifty and a hundred years ago.

What, then, brought on the recent rise of prices? What prevented

[1] The best available index numbers for the years referred to are the following:

England

Taylor's and Jevons' Index Numbers of Prices by Periods

(Average for 1784-90=100)

	Taylor's Index	Jevons' Index
1784-90	100	100
1791-97	120	118
1798-04	150	143
1805-11	174	166
1812-18	177	153
1819-25	125	110
1826-32	104	94
1833-37	104	92

United States

Medians of the Relative Prices of 92 Commodities

(Prices in 1860=100)

1860	100
1861	97
1862	103
1863	133
1864	180
1865 Jan.	216
Apr.	190
July	158
Oct.	175
1866	177
1867	162

Mr. N. J. Silberling, from whose paper in the *Review of Economic Statistics* (October, 1919, p. 285), the English figures are taken, believes that John Taylor's recently discovered figures which include 90 commodities are more reliable than Jevons' index which contains only 52 commodities (or 40 if different varieties of the same article are not counted separately). After writing his article Mr. Silberling discovered a third English index including 90 commodities in 1790-1830. This series puts the highest point in 1813-14. The American figures are from Wesley C. Mitchell, *Gold, Prices, and Wages under the Greenback Standard*, p. 59.

prices from falling in 1919? What are the chief factors that will control the course of prices in 1920 and the years to follow?

The difficulties encountered in trying to answer these questions are primarily difficulties of a quantitative character. We know fairly well what factors affect the movements of the price level, and the direction in which each factor works. Concerning the relative importance of these factors our knowledge is less secure. Some among us entertain decided opinions on the intricate problems involved, but these opinions differ. Fortunately, however, much work has been done of late on the statistical measurement of several factors. Of course work of this type does not give a definitive answer to our questions, for the results of the most careful measurements may be interpreted in diverse ways. Nevertheless the statistical line of attack seems to be the most promising at present. Accordingly I propose to utilize the available measurements in reviewing the process by which the price revolution was brought about and the process by which the incipient decline of prices early in 1919 was checked. This review will shed some light upon the processes that will control the price movements of the near future. I lay stress upon the analytic study of the process by which the level of prices has been raised, because I think we learn more about the relative importance of the factors when we watch them at work than when we merely contemplate their net resultants. The disadvantage of this procedure is that I shall have to recall much that is already familiar in the economic history of 1914-19. But you will pardon that if I can give the vaguely known greater precision.

II. The Rise of Prices before the United States Entered the War

The rise of prices which began in 1897 reached its prewar culmination in the United States amidst the prosperous days of 1912. With the recession of business activity in 1913 and the first half of 1914 there came a slight decline in the price level.[2]

When the war broke out at the end of July the most striking effects were seen in finance. Heavy selling by foreign investors caused a great break of prices on the New York Stock Exchange and forced it to close on July 31. Cables on London rose to $7 the next day,

[2] The latest form of the Bureau of Labor Statistics index number of wholesale prices gives the following results on the 1913 base:

1912		101
1913		100
1914	Jan.	100
	Apr.	98
	July	100

the New York banks lost $56,000,000 of cash in a single week, the 60-day discount rate rose from 2¾ to 8 per cent, clearing-house loan certificates were resorted to, and $386,000,000 of the emergency circulation provided for by the Aldrich-Vreeland act were issued. Gold exports reached $105,000,000 by the end of the year.[3] Exports of merchandise were severely restricted in August and September, and while they rose again toward the close of 1914 they did not surpass previous records until the following February. On domestic business, of course, the effect of these events was to intensify the already-prevailing depression. The winter presented a grave problem of unemployed men and idle machinery.

In the commodity markets the immediate consequence of the war was a sudden upward leap of sugar and grain prices. These movements together with greater but less important advances among chemicals sufficed to raise the general price level 4 per cent in August. But after the first flurry was over domestic depression counted more for a time than foreign demand and the price level receded again. Throughout the first six months of 1915 prices remained constant at the prewar level. The war-time rise did not begin until July, 1915, and it did not assume marked proportions until the end of that year—about seventeen months after the invasion of Belgium.[4]

Unquestionably it was the impetus from Europe that started American prices on their upward course. This foreign demand for American products is one of the factors that has been analyzed and measured in such fashion that its development and effects can be followed rather clearly. Mr. W. J. Berridge has segregated the imposing total values of exports into their two component factors—the increase in the physical volume of goods shipped abroad, and the increase in prices. He finds that the price factor counted for little in the fiscal year 1915. Prices of exports rose only 1 per cent above their prewar level, while the physical volume of exports rose 22 per cent, despite the lean early months of the year. In the fiscal year 1916, however, the increase in prices reached 22 per cent and that in physical volume 57 per cent. In 1917 the figures are 63 per cent increase in prices and 72 per cent

[3] The best account of the crisis of 1914 is that given by Dr. B. M. Anderson, Jr., in *Effects of the War on Money, Credit, and Banking, in France and the United States.* (Carnegie Endowment for International Peace. Preliminary Economic Studies of the War, No. 15.)

[4] The index number made from quotations for 1366 commodities by the Price Section of the War Industries Board (*History of Prices during the War,* Summary, p. 26), will be found on the next page.

INDEX NUMBERS OF ALL COMMODITIES, BY MONTHS, QUARTERS, AND YEARS, 1913-1918

(Weighted aggregates of the actual prices of 50 classes, containing 1,366 commodities, converted into relatives on base, prices in July, 1913, to June, 1914, = 100.)

	1913		1914		1915	
	Index number	Per cent of change[1]	Index number	Per cent of change[1]	Index number	Per cent of change[1]
Years	101	.....	99	— 2.0	102	+ 3.0
Quarters—						
First	102	.....	100	— 2.0	100	+ 2.0
Second	100	— 2.0	97	— 3.0	100	.0
Third	101	+ 1.0	100	+ 3.1	102	+ 2.0
Fourth	102	+ 1.0	98	— 2.0	107	+ 4.9
Months—						
January	103	.....	100	— 1.0	100	+ 2.0
February	102	— 1.0	100	.0	100	.0
March	102	.0	99	— 1.0	100	.0
April	101	— 1.0	98	— 1.0	100	.0
May	100	— 1.0	97	— 1.0	100	.0
June	100	.0	97	.0	100	.0
July	100	.0	97	.0	102	+ 2.0
August	101	+ 1.0	101	+ 4.1	102	.0
September	102	+ 1.0	101	.0	102	.0
October	102	.0	99	— 2.0	104	+ 2.0
November	102	.0	98	— 1.0	107	+ 2.9
December	101	— 1.0	98	.0	111	+ 3.7

	1916		1917		1918	
Years	126	+23.5	175	+38.9	194	+10.8
Quarters—						
First	118	+10.3	152	+ 9.3	187	+ 2.7
Second	123	+ 4.2	177	+16.4	190	+ 1.6
Third	125	+ 1.6	187	+ 5.6	197	+ 3.7
Fourth	139	+11.2	182	— 2.7	202	+ 2.5
Months—						
January	115	+ 3.6	148	+ 2.8	185	+ 1.6
February	118	+ 2.6	151	+ 2.0	187	+ 1.1
March	121	+ 2.5	156	+ 3.3	188	+ .5
April	123	+ 1.7	170	+ 9.0	191	+ 1.6
May	123	.0	178	+ 4.7	190	— .5
June	122	— .8	183	+ 2.8	189	— .5
July	123	+ .8	189	+ 3.3	193	+ 2.1
August	125	+ 1.6	187	— 1.1	196	+ 1.5
September	127	+ 1.6	186	— .5	201	+ 2.5
October	132	+ 3.9	182	— 2.2	201	.0
November	141	+ 6.8	183	+ .5	201	.0
December	144	+ 2.1	182	— .5	203	+ 1.0

[1] Per cent of rise (+) or fall (—) from the index number of the preceding year, quarter, or month.

increase in quantity. Further, Mr. Berridge shows that in 1915 the increase in quantity of exports was practically limited to foodstuffs. Not until the fiscal year 1916 did the shipments of war material give rise to notable increases of exports of "manufactures for further use in manufacturing" and in "manufactures ready for consumption." Finally, he shows that the large increase in volume of purchases came from Europe in 1915, but that in 1916 and 1917 the two Americas, Asia, Africa, and Oceania turned to us for goods they have formerly obtained from England and Germany.[5]

[5] Mr. Berridge's "Analysis of the Exports of Merchandise from the United States" (*Review of Economic Statistics,* October, 1919) is much more comprehensive than the somewhat similar study published in the *Federal Reserve Bulletin,* October, 1919, pp. 952-7. Mr. Berridge first made separate weighted index numbers of the physical quantities and prices of 100 important exports. He then used his price index to reduce the values of all exports to a physical volume basis. The following are the figures most important for the present paper:

INDICES OF THE PHYSICAL QUANTITIES, PRICES, AND VALUES OF AMERICAN EXPORTS BY FISCAL YEARS, 1915-1919.

(Averages for fiscal years 1911-14=100)

Fiscal years	Crude Indices of Quantities for 100 Articles	Indices of Prices for 100 Articles	Indices of Values for all Domestic Exports	Adjusted Indices of Quantities for all Domestic Exports
1915	117	101	123	122
1916	127	122	191	157
1917	139	163	279	171
1918	115	210	261	125
1919	131	227	317	140

"If we include the physical volume of shipments to the American Expeditionary Forces, we find the quantity index for 1917 to be 172 instead of 171, for 1918 129 instead of 125, and for 1919 150 instead of 140 per cent. The slump in quantity of exports is thus seen to be due only partly to the army's purchase and shipment, in its own name, of goods formerly shipped privately as 'exports'; it is more largely due to the heavy diversion of manpower from productive industry after our entry into the war, and especially to the shortage of shipping."

The substantial accuracy of Mr. Berridge's results is confirmed by the following comparison with the statements of quantity of exports in long tons prepared by the United States Shipping Board.

Fiscal years	Exports in millions of long tons	Relatives on 1911-14 base	Berridge's index of quantities
1911-14	50	100	100
1915	61	122	122
1916	79	158	157
1917	86	172	171
1918	63	126	125
1919	72	144	140

War Department consignments to the American army abroad would raise the Shipping Board index to 173 in 1917, 130 in 1918 and 154 in 1919.

Mr. Berridge also gives the following adjusted indices of the prices and

The large foreign demand for foodstuffs gave American business in 1915 much the same character as it had in 1878, 1891, and 1897. In all these cases the year had begun in depression, but it closed in activity started by large exports of foodstuffs. The revival had greater intensity in 1915 than in these earlier parallels, because the export demand rapidly spread to other classes of goods. The British, French, and Russian governments placed enormous contracts with American manufacturers for war material. The finished goods thus contracted for did not begin to leave our shores in large quantities until after June, 1915; but in the fiscal year 1916 exports of "manufactures ready for consumption" doubled in physical quantity.

Concerning the relative magnitude of domestic and foreign business in this country there are several divergent estimates. Dr. B. M. Anderson, Jr., puts the proportion of exports to domestic trade in the prewar years at somewhat more than 10 per cent. By 1916 he thinks this ratio had nearly if not quite doubled.[6] Certainly the foreign demand was a factor of sufficient magnitude to change the whole tone of business in a single year. Thus in summing up the business characteristics of 1915 the *Financial Review* said:

[6] See his *Value of Money* (1917), pp. 267-78.

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the physical volume of domestic exports by the "great groups" recognized by the Department of Commerce, namely,

Group A—Crude materials for use in manufacturing
B—Foodstuffs in crude condition and food animals
C—Foodstuffs partly or wholly manufactured
D—Manufactures for further use in manufacturing
E—Manufactures ready for consumption

	Group A		Group B		Group C		Group D		Group E	
Fiscal years	Quantity	Prices	Quantity	Prices	Quantity	Prices	Quantity	Prices	Quantity	Prices
1915	91	76	302	129	136	110	98	101	108	107
1916	73	99	232	126	174	113	130	141	212	136
1917	72	137	216	189	165	147	170	194	262	162
1918	58	210	122	236	183	208	140	239	172	183
1919	67	243	231	238	251	234	117	227	174	198

Finally, Mr. Berridge's indices for values and physical quantities of exports to continental divisions are as follows:

	Europe		North America		South America		Asia		Oceania		Africa	
Fiscal years	Quantity	Values	Quantity	Values	Quantity	Values	Quantity	Values	Quantity	Values	Quantity	Values
1915	139	140	88	89	76	77	104	105	102	103	108	109
1916	175	214	112	137	114	139	211	258	107	131	136	166
1917	190	310	136	221	124	202	213	347	89	145	123	201
1918	127	267	110	232	116	244	196	412	85	179	98	206
1919	145	329	110	249	137	310	244	553	120	273	141	321

The physical quantity indices in this case are roughly made by dividing the values of exports to each continental division by the price index of 100 exported articles.

" . . . at first only the industries engaged in filling war orders manifested activity, chief among which was the iron and steel trade; later the movement spread until eventually all came within its embrace. Even in steel, however, progress was very slow at first and 1915 was well advanced before producing capacity was employed to its full extent. The transformation in outlook and in condition between the beginning and the end of the year was unquestionably one of the most wonderful on record."[7]

The activity thus initiated cumulated in the familiar fashion. Nineteen sixteen was one of the busiest years this country has known. To the huge foreign demand for goods there was added the far huger demand from domestic sources,—the demand that comes from workmen in full employment, from enormous profits, and from an active campaign of new construction. An index number of the physical volume of minerals produced in the United States which started with 100 in 1913, dropped to 85 in 1914, recovered to 99 in 1915, and jumped to 130 in 1916. Crops in 1916 were not nearly so abundant as in the preceding year, and of course crops are the largest single factor in American production. But even so, an index of the production of all raw materials on the 1913 base gives 1915 an index of 107 and 1916 one of 111.[8]

That prices should rise under these conditions was to be expected.

[7] *Financial Review,* Annual, 1916, p. 7.

[8] See the index numbers of the physical volume of raw materials produced, in the *History of Prices during the War,* Summary, pp. 44-46. In these indexes all the raw materials for the production and importation of which satisfactory data could be had are included. The production figures are multiplied by "fabricating factors" derived from the Census of Manufactures in order to give materials which undergo much elaboration before consumption a greater influence upon the results than products that are mostly consumed in their raw state. The products of this multiplication are then weighted by average prices in 1917. For present purposes the following excerpts from the figures are sufficient:

INDEX NUMBERS OF THE PHYSICAL QUANTITY OF RAW MATERIALS PRODUCED IN AND IMPORTED INTO THE UNITED STATES IN 1913-1918.
(Supply in 1913 = 100)

	All Raw Materials	Farm Products		Forest Products	Mine Products
		Vegetable	Animal		
Number	*90*	*25*	*13*	*23*	*27*
Year					
1913	100	100	100	100	100
1914	99	106	100	97	85
1915	107	112	107	96	99
1916	111	100	114	114	130
1917	114	107	113	111	132
1918	116	106	126	99	127

And for a time the rise had most of the ordinary characteristics of a recovery after business depression. Thus the rate of increase was slow at first. As already said, wholesale prices remained unchanged at the prewar level throughout the first six months of 1915. It is the common rule that revival after depression is confined for several months to increasing the physical volume of trade. Not until the more efficient plants have substantial backbone orders on their books do they begin active bidding for materials and marking up the prices of their products.[9] And after it has begun, the rise of prices is usually slow for a few months, as it proved to be in the autumn of 1915. Again, the rise began as usual with a limited group of articles and took several months to spread over a large part of the markets for commodities. The goods that led the rise of prices were the goods in most active demand and the goods in restricted supply. Mr. Berridge's price index of exports advances a trifle more in the fiscal year 1915 than the War Industries Board's American index for "all commodities," and much more rapidly than the latter in 1916.[10] Among exports it was foodstuffs—the class that increased most in physical volume in 1915—that rose most in prices, and it was foodstuffs that kept the general level of prices from declining in this country in the first half of 1915. Chemicals, particularly coal tar products and explosives, did indeed show a far greater rise than foodstuffs; but they are not important enough in the country's total business to have much influence upon a properly-weighted index number.[11] The one peculiar feature of the early rise is that manufactured consumers' goods rose sooner than raw materials, particularly if we leave out raw foodstuffs. Raw minerals, which as a rule are highly sensitive to changes in business prospects, did not get back to their prewar level until November,

[9] Compare Wesley C. Mitchell, *Business Cycles,* pp. 456-9. Hence index numbers of wholesale prices are not a sensitive barometer of conditions in the "revival" phase of the business cycle.

[10] These index numbers are as follows:

Fiscal years	Index Number of the prices of 100 exports	War Industries Board's Index number for All Commodities
1915	101	99.5
1916	122	112.5
1917	163	148.2
1918	210	186.6

The difference between the bases on which these two series are computed (average prices in the fiscal years 1911-14 and in the fiscal year 1914) probably does not affect this comparison appreciably.

[11] See *History of Prices during the War,* Summary, pp. 52, 53, for index numbers of 7 groups of commodities; pp. 58-67 for index numbers of 50 classes of commodities, and p. 24 for the "class weights."

1915.[12] This reversal of common experience is a further bit of evidence that it was the export demand which set American prices soaring. Europe wanted finished goods, ready for use, and was ready to pay whatever prices were necessary to get them in a hurry.[13]

What is not in accordance with experience is the extraordinary rate at which the rise of prices thus initiated in the autumn of 1915 continued through the fiscal years 1916 and 1917. In the 25 months, June, 1915, to July, 1917, the American price level rose 85 per cent, more than half again as much as the great advance from 1897-1914, a period of 17 years. There have been price revolutions more violent than this one. We had one ourselves during the Civil War. The European belligerents were having an even greater rise at the moment. But never elsewhere has there been so rapid an advance in the price level of a country maintaining a specie standard.

Three factors were mainly responsible for the extraordinary violence of the rise. One factor was the combination of conditions which made it easy and in part made it necessary for American producers to charge exceedingly high prices for what they sold to Europe. Two other factors combined to make it easy to increase our credit circulation fast enough to finance the rapidly swelling physical volume of business at steadily soaring prices.

1. For the foodstuffs that bulked so large in the exports of 1915, and for the other civilian supplies that were exported to Europe there was no reason aside from the increase of demand why Americans should charge exceptionally high prices. The harvests of 1914 were good, those of 1915 were the largest on record. But with munitions and army equipment the case was different. In large part the manufacture of these goods required the construction of new plants and

[12] See the monthly index numbers made by the Federal Reserve Board from the data of the Bureau of Labor Statistics, *Federal Reserve Bulletin,* September, 1919, pp. 861-2. The following excerpts show the trend of prices by calendar years:

	1914	1915	1916	1917	1918
Raw materials					
Farm products	103	110	128	211	241
Animal "	106	100	119	169	201
Forest "	97	93	96	118	140
Mineral "	93	96	127	184	178
Total	99	100	119	175	195
Manufactured goods					
Producers' goods	95	100	141	186	196
Consumers' "	101	102	123	173	208

[13] See Berridge's price indexes of exports by "great groups" given in an earlier note.

machinery and the hiring and training of new workers who would be inefficient at first. The short-period supply price rises with quantity demanded, and during the war the periods within which increased supply was demanded were short indeed. The extent of the rise in such a case depends largely on the cost of the new facilities for production, and on their prospective working life. Now in 1915 and in 1916 American business men had grave doubts whether the war could go on for more than another year. They were therefore unwilling to make the outlays necessary to provide military supplies unless they were assured prices for products high enough to repay their whole investments with a profit in short order. And, of course, the buyers while desirous of paying as little as possible, were ready to promise as much as was necessary to get contracts accepted by these hesitant manufacturers. Hence the contract prices charged for military supplies rose at a pace which left the rise of foodstuffs far behind. The clearest case revealed by our index numbers is that of explosives, which more than doubled in price by October, 1915.[14] But, once certain interests had undertaken war contracts, their prospective profits were large enough to make them ready to pay almost any prices for the prompt delivery of the supplies they required and almost any wages for labor. No regular business boom ever presents such a pressing necessity for charging high prices as war brings to the munitions trades, or gives a trade which leads the advance such power and incentive for bidding up prices in other lines.

2. The Federal Reserve banks opened for business on November 16, 1914. Under the old National Banking system the ratio of cash reserves to demand liabilities had been distinctly higher in the United States than in Canada or England.[15] Yet our banks as a whole were notoriously less able to withstand strains than the Canadian or English banks. When their reserves were mobilized under the Federal Reserve system it was reasonably anticipated that a given sum of cash would sustain as large a volume of deposit credits in this country as elsewhere. Accordingly, the minimum reserve requirements were materially reduced by the new law. This reduction meant that with their existing reserves the National Banks would be in a position to expand their loans largely after November, 1914. But such an expansion was

[14] See index number for this class in *History of Prices during the War*, Summary, p. 67.

[15] Compare F. S. Mead, "Bank Reserves in the United States, Canada, and England," *Quarterly Journal of Economics*, May, 1907.

not what was looked for at the time. Dr. H. Parker Willis presented the best-informed opinion early in 1914 when he said:

"The . . . act makes a very great reduction in reserve requirements, and will release a great volume of money after all new needs for the reserves of the federal reserve banks have been complied with. That this will produce some danger of inflation during the transition period—a danger that will need to be carefully guarded against by the best sense of the banking community—is evident. After that period has been passed the reduction in the amount of gold that must be carried constantly in bank vaults will really be far reaching."[16]

3. The enormous exports of the war period brought it about that money was not "released" from American reserves. Instead gold was poured into these reserves at an unprecedented rate. The net imports reached 420 millions in the calendar year 1915 and 530 millions in 1916—nearly a billion dollars in two years.[17] Of course this billion of new gold in combination with the reduced reserve requirements made it easy for the banks to lend several billion dollars of credit to the business public. They did in fact increase their loans and investments by nearly 7¾ billion dollars between June, 1914, and June, 1917—a gain of 37 per cent. Net deposits rose at a slightly faster rate—39 per cent or nearly 7 billions.[18] Under the circumstances bank credit was the most abundant and the cheapest commodity in the market. The business year 1916 had much in common with the business year 1906. But in 1906 the discount rate on 60-90 day paper averaged almost 6 per cent; in 1916 it averaged less than 3½ per cent. The rates on four-months paper were 6.25 per cent in the earlier year, and 3.84 per cent in the later. Call money in 1906 averaged 6.55 per cent, in 1916 2.62 per cent.[19] Ordinarily, high interest rates and, what is more important, difficulty in securing increased banking accommodation apply a powerful brake to the further rise of prices and the further expansion of business after prosperity has reached a certain pitch. In 1916 no such check was imposed.

[16] "The Federal Reserve Act," *American Economic Review,* March, 1914, p. 21.

[17] See *Federal Reserve Bulletin,* November, 1919, p. 1016.

[18] See the data for "all banks in the United States," *Federal Reserve Bulletin,* September, 1919, p. 839.

[19] Compare E. W. Kemmerer, "The War and Interest Rates," *American Economic Review,* Supplement, March, 1919, pp. 96-107, and the monthly rates of interest on different classes of loans in the *Review of Economic Statistics,* January, 1919, pp. 91-103.

III. Prices from the American Declaration of War to the Armistice

When the United States entered the war conditions affecting prices underwent a great change.

First, the physical volume of exports fell off, partly because of the effect of the submarine campaign, partly because the available ships were largely used for carrying American soldiers to France, and partly because our own war preparations reduced our ability to manufacture for others. This decline was by no means offset by shipments to our army. Berridge's index number of the quantity of exports reached 171 in the fiscal year 1917; in 1918 it fell to 125. If the shipments to the American Expeditionary Forces be included these numbers become 172 and 129—not a very significant emendation.

Second, the war demands of our own government much more than made up for this decline in foreign purchases. Colonel Ayers estimates that in two years the United States spent almost 22 billions on the war.[20] This sum is more than three times the value of our merchandise exports in the banner year 1917. On the other hand, the government tried to check civilian demand by preaching economy in consumption, eliminating wasteful trade practices, restricting non-essential industries, cutting down imports, etc. But it took many months to get this sensible program into working shape and it had not attained full efficiency when the armistice was signed. In the meantime high money wages and full employment as well as prodigious profits and all the wastes incident to hurry were powerful counteracting factors.

Third, in the face of the net increase of demand for commodities it proved impossible to increase materially the physical output of American industry above the high level of 1916. The index numbers of the production of raw minerals were 130 in 1916, 132 in 1917, and 127 in 1918. If we include in the index all raw materials—among them, farm crops that depend upon the weather quite as much as upon the effort expended—the indexes become 111 for 1916, 114 for 1917, and 116 for 1918. Modern industry is capable of increasing output rapidly between a year of depression like 1914 and one of full activity like 1916. But once all the mills are busy to the limit, further output must wait on further construction. Although the war evoked the full energy of the nation, it took nearly 5,000,000 of the

[20] This figure does not include loans to the Allies. *The War with Germany, a Statistical Summary,* by Leonard P. Ayers, p. 11.

best workers into the army and navy.[21] To increase production even moderately under these circumstances required a great effort.

Fourth, banking resources were further mobilized to finance the war program. By the act of June 21, 1917, the required reserves were reduced somewhat and transferred in toto to the Federal Reserve Banks. Various provisions of the law were changed to encourage state banks and trust companies to join the system. Measures were adopted to draw as much of the gold coin as possible into the Federal Reserve banks, and an embargo was laid upon gold exports. Finally, bank resources were freely utilized to finance purchases of liberty bonds. By these means the cash reserves of the Federal Reserve system were increased more than a billion dollars between our declaration of war and the armistice, the circulation of Federal Reserve notes was increased over two billions, and the total loans and investments of all banks in the country were increased nearly six billions in the shorter period from June, 1917, to June, 1918. The price of credit accommodation advanced indeed under these circumstances, but was not allowed to reach the high rates which we have often seen at the culmination of a business boom.[22] In comparison with current profits bank credit remained a cheap article, and few solvent borrowers outside of the "non-essential" industries had their credit restricted.

Of course these conditions made possible a further great rise in prices. From 151 in February, 1917, when diplomatic relations with Germany were severed, the War Industries Board index number rose to 189 in July,—an advance more rapid than any that had preceded. And this happened before the military program had been developed, before the difficulty of increasing production was appreciated, before the gold in circulation had been gathered in by the Federal Reserve banks, before the Federal Reserve notes had reached the half billion mark, and before the banks had made their enormous advances on war paper. These later developments made possible,—indeed, they made probable,—the continuation of the uprush of prices through 1917 and 1918.

Such a continuation actually occurred in England and in France,

[21] *The War with Germany, a Statistical Summary*, by Leonard P. Ayres, p. 13.

[22] Compare the following average rates of discount in New York, given by the *Review of Economic Statistics*, January, 1919, pp. 95-103.

	1906	1907	1916	1917	1918
4-6 month commercial paper.....	6.25%	6.66%	3.84%	5.07%	6.02%
60-90 day " "	5.68	6.36	3.43	4.74	5.87
Call loans at the Stock Exchange	6.55	7.02	2.62	3.43	5.28

although their price levels in the summer of 1917 were relatively much higher than ours. And in the United States also an index number of the prices of 793 commodities which the government did not "peg" moved up with never a sag from 160 in July, 1917, to 201 in October, 1918. The general price level would have followed a similar course had the government not intervened.

Intervene it did in the simplest fashion. While the policy of the Treasury and the Federal Reserve Board was permitting if not promoting "inflation,"[23] the various War Boards and the Price Fixing Committee were telling producers what prices they should charge the government, and in many cases what prices they should charge the public for commodities. These decisions often involved substantial reductions from the current market quotations, yet they were loyally accepted in the great majority of cases. The effect was striking. An index number including 573 commodities brought under price control at various dates from midsummer, 1917, to the armistice was reduced from 209 in July, 1917, to 189 in June, 1918. Thereafter moderate advances were permitted in controlled prices and this index rose again; but it did not regain as high a point as before price-fixing began.[24] The net effect of the continued increase of uncontrolled prices and the reduction of controlled prices was a drop in the American price level from 189 in July to 182 in December, 1917, followed by a rise to 201 in November, 1918.

Of course the volume of the circulating medium accommodated itself easily to the requirements of business at this price level. It could easily have accommodated itself also to the higher levels which prices would have attained had there been no price-fixing; for on the day the armistice was signed the Federal Reserve banks had surplus reserves of half a billion, a surplus equal to almost a third of the required reserves.[25] It could easily have accommodated itself also to the lower

[23] Compare E. W. Kemmerer, "Inflation," Bankers Statistics Corporation Weekly Service, December 4, 1919.

[24] See *History of Prices during the War,* Summary, p. 43. Fuller details will appear in the forthcoming *Government Control over Prices,* by Paul W. Garrett (War Industries Board Price Bulletin No. 3).

[25] This surplus is computed by taking 35 per cent of the net deposits plus 40 per cent of the Federal Reserve notes in actual circulation to represent the required reserve, and deducting this sum from the total reserves held. The figures for November 8, 1918, are, required reserve $1,588 millions, surplus reserve $518 millions. Compare O. M. W. Sprague, "The Significance of the Weekly Statements of the New York Clearing House Banks and of the Federal Reserve Banks." (Bankers Statistics Corporation, Weekly service, November 25, 1919.)

range of prices which the price-fixing authorities might have set had they realized their power earlier, brought more commodities under control, and insisted upon more drastic reductions. But their accomplishment is notable as demonstrating that within wide limits the price level is susceptible of direct control by the government when supported by public opinion.

IV. Prices after the Armistice

The collapse of Germany brought a new series of changes with dramatic suddenness. Just when we were getting really organized for war we were confronted with the shattering prospect of peace. That meant the cancelation of war orders, the discharge of thousands of war workers, and the return of about four million soldiers and sailors to civil life. It also meant the rapid decline of the public morale which had made possible a national policy of economic organization. We had no one to present vividly to the nation the need of such a policy for peace. The War Boards melted away and we relapsed into "business as usual."

Speculation about the probable course of prices at once became rife. On that topic opinions in Washington differed. The Division of Public Works and Construction Development, one of the new branches of the Department of Labor, armed with a trenchant leaflet by Professor Irving Fisher, began a vigorous propaganda to stimulate building. They held that we had attained a permanently higher level of prices, and therefore that "Business men are going to find out that the clever man is not the man who waits, but the one who finds out the new price facts and acts accordingly."[26] On the other hand, the Federal Reserve Board sounded a warning note in its *Bulletin,* "Those countries which first succeed in readjusting their costs of production and restoring their industry to a normal level of values (the Board said) will be most successful in developing their exports and securing a foothold in the markets of consuming nations the world over."[27] Then President Wilson cabled from Paris his approval of plans for readjusting prices and authorized the Industrial Board of the Department of Commerce to consider the problem and suggest practical measures. But the greatest purchasing agency of the government—the Railroad Administration—thought that this board did not propose a sufficient reduction in steel prices, and the board resigned. That

[26] Compare Mr. R. W. Babson's report, *Economics of the Construction Industry,* U. S. Department of Labor, 1919.

[27] *Federal Reserve Bulletin,* February, 1919, p. 104.

episode ended the effort at direct constructive action by the government and left the business public to solve the problem as it might.

The business public was as much divided in its counsels concerning the proper price policy as the official world. Some industries promptly marked prices down after the armistice, others marked them up on the termination of government control. The net resultant was a sharp fall in the general price level from December to February or March, followed by a slow recovery which lasted through June.[28] In April many Federal Reserve agents reported "that the business community has given up the thought that it may profitably await a further considerable reduction in prices. . . ."[29]

Why was the fall of prices checked so soon? The answer is rather complicated. In part the check resulted merely from a levelling up process. During the war the prices of non-essential commodities had been held far below the average advance, partly by direct price-fixing, partly by the curtailment of civilian demand. Such was notably the case with lumber and many other building materials. When price control ended the producers of such goods, spurred by their rising costs and encouraged by the building propaganda of the Division of Public Works and Construction Development, began marking up their prices.[30]

[28] The Bureau of Labor Statistics, Bradstreet's, and Dun's index numbers for 1919 follow. In comparing them one should remember that the two commercial series are published as of the first of the month, while the official series is more properly dated at the middle of the month. There can be no question that the Bureau's index is the most reliable of the three series as a measure of changes in the general level of prices. See the comparison made in the forthcoming second edition of *Bulletin of the Bureau of Labor Statistics, Whole Number 173.*

Month	Bradstreets	Dun	Bureau of Labor Statistics
January	18.53	230.15	203
February	17.63	220.05	197
March	17.22	217.04	201
April	17.28	219.97	203
May	17.24	222.19	207
June	18.09	227.97	207
July	18.90	233.71	219
August	20.00	241.65	226
September	19.47	238.34	221
October	19.52		223
November	19.90		230

[29] *Federal Reserve Bulletin,* May, 1919, p. 409.

[30] Compare the index number of prices of "products used for building" in the *History of Prices During the War,* Summary, p. 53, the index number of forest products prices in the *Federal Reserve Bulletin,* September, p. 862, the Bureau of Labor Statistics index of lumber and building materials in the *Monthly Labor Review,* and the data in Mr. Babson's report on *Economics of the Construction Industry.*

Second, the physical volume of exports increased again, and particularly exports of foodstuffs.[31] In part, domestic consumers were bidding against the intense demands of underfed Europeans. A third factor was the termination of the economies in personal consumption, partly voluntary and partly forced, that had been practiced during the war. There was real need for buying more than the customary quantities of clothing, household furnishings, and the like. There was also pressing need for more home building. To meet these demands there was not an adequate supply of goods. The crops of 1918 had been but moderately good, the lumber cut had been below the prewar level, mineral production had fallen behind the records of 1916 and 1917,[32] stocks of finished merchandise had been purposely kept as moderate as was judged safe during the war, and current production was hampered by the process of readjustment to peace conditions.

Not less important than these material facts of demand and supply was the mental attitude of different sections of the public. Very many consumers had more money to spend than they had been accustomed to, many of them had been subjected to months of voluntary restraint or actual privation; they wanted the "grand and glorious feeling" of free spending. Most soldiers on being mustered out received a substantial lump sum and thought themselves entitled to get all the fun they could out of it. The newly rich are always the most conspicuous wasters, and the war had produced a large number of such gentry.

On the other side wage earners objected strenuously to a reduction of wages, and manufacturers objected just as strenuously to a reduction of selling prices until wages had been cut. From what is definitely known of the wage-earner's position his case for maintaining rates seems strong. The Bureau of Labor Statistics has published results of its investigation into hourly rates of pay in eight great industries. The figures show four industries in which the laggard increase in earnings per hour by the spring of 1919 was less than the 75 per cent increase in the cost of living, and four industries in which earnings had increased more than living expenses. Supplementary statistics indicate that the increase in the average weekly earnings in New York factories over June, 1914, was just 75 per cent, and that the wages of farm laborers throughout the country had also risen

[31] Compare Berridge's figures for the fiscal year 1919, given above.

[32] See the index numbers of the production of various classes of raw materials from *History of Prices during the War,* Summary, given in a preceding footnote.

almost exactly as much as the cost of living.[33] But hourly, daily, and weekly rates do not tell the whole story. In the spring of 1919 average working class incomes doubtless fell off because of the cessation of overtime and the irregularity of employment. To submit to a cut in wages would have meant the aggravation of that loss. Further, the statisticians of the great trade unions could show that real wages appear to have declined in the prewar period of rising prices, and that the workingman's best hope of regaining his old position lay in preventing wages from falling when the cost of living declined. They could also point to the enormous increase of profits in 1916 and 1917, as summed up with startling clearness in the reports of the Commissioner of Internal Revenue, and claim that during the war the employing interest had benefited at the expense of the manual workers. Finally, the trade unions on the whole were in a strong position and a militant temper, conscious of a fine war record, able to offer effective resistance to whatever pressure might be brought to decrease wages, inclined rather to press for further increases.

Willingly or reluctantly employers came very generally to appreciate this position, and to recognize that widespread reductions in wages could be forced only by a bitter struggle. The loose talk about "liquidating labor" which had flowed freely in certain circles immediately after the armistice became less common, and men accepted the alternative of doing business at the old wage rates but keeping up prices. Labor was not only high priced but also inefficient, and overhead costs were heavy per unit because of the restricted scale of current output. Under the circumstances cutting prices would have meant cutting profits. In the wisdom of this policy of price maintenance the banks seem to have concurred. They had abundant lending power in reserve and were eager to see it employed. Indeed, at the end of June the Federal Reserve banks were in a stronger position than when the armistice was signed, holding over 600 millions of "free gold."[34] The business man who wanted to buy materials could get funds for that purpose and for his pay roll. By mutual consent "watchful waiting" for prices to fall gave place to a resumption of activity on the existing price level.

All this was not merely an American development. In Canada and England we know from index numbers, in other countries we have grounds for believing, that prices pursued much the same course as

[33] See *Monthly Labor Review,* July, 1919, pp. 147, 148, and November, 1919, pp. 191-4.

[34] See *Federal Reserve Bulletin,* August, 1919, p. 774.

in this country. That is, the general level declined from December until some time in the spring, paused, and then turned upward again. Probably much the same factors, material and psychological, were at work everywhere. But the check and the upward turn seem to have come a month or two earlier here than abroad.

Doubtless the policy of trying to resume active production without waiting for a fall of wages or prices was wholesome. But the activity soon became far more marked in trading than in manufacturing. "Booms" developed both in farming lands and in city lots; heavy dealings and rapidly mounting prices were reported from the produce exchanges and the Stock Exchange. In July the Bureau of Labor Statistics index number jumped suddenly from 207 to 219, the greatest increase being in prices of consumers' goods.[35] The Federal Reserve Board felt it necessary to issue one of its periodical warnings "that the funds of the Federal Reserve system are in no sense intended for the support of speculation and that member banks should bear this in mind when arranging for the extension of accommodation to borrowers."[36] But the Board contented itself with this general warning and took no decisive measures to check speculation. It is not surprising therefore that in November they had to report that the decrease in the holdings of war paper by member banks since June 30 had been much more than offset by an expansion of other loans.[37] The reserve percentage of the Federal Reserve banks themselves had dropped to the lowest figure on record,—47.9 per cent.[38] When matters had reached this stage the Reserve Board acted. On November 3 the Federal Reserve Bank in New York raised its discount rate and all the other reserve banks presently followed suit. The Board also began actively to discountenance the use of Federal Reserve funds in the promotion of any kind of speculation. These measures caused a great tumble of stock prices and doubtless tended to moderate speculation in other quarters. Nevertheless the surplus reserves of the Federal Reserve banks suffered a further fall in December.

V. Prices in the Early Nineteen-Twenties

So much for the recent past. What of the near future? To make a reasonable forecast we must conjecture how the factors which have exercised influence upon the price level in 1919 seem likely to develop in 1920 and the years to follow.

[35] *Federal Reserve Bulletin,* September, 1919, p. 823.

[36] The same, July, 1919, p. 618.

[37] The same, November, 1919, p. 1010.

[38] October 31. The same, p. 1009.

First regarding exports. Professor Charles J. Bullock, John H. Williams, and Rufus S. Tucker have made a thorough statistical study of the various visible and invisible items in our foreign trade, and concluded "that after a brief period, while Europe is still in extreme need of our products and our loans, our excess of exports will disappear. Exports are certain to diminish and the *quantity* of goods imported is sure to increase markedly."[39] This opinion that exports will be less in say the next five years than in the last five seems to be widely shared.[40] And since the Harvard study was prepared, the likelihood of large exports next year has been lessened by the heavy fall of foreign exchange—which greatly increases the price which a foreigner must pay in his own money for American goods,—and by the reluctance of American bankers and investors to provide large credits for foreign buyers. So serious has the situation become that Secretary Glass has candidly reversed his policy of leaving foreign trade to private initiative and appealed to Congress for authority to finance the most needed exports with public funds.[41] Of course, this expected decline in the physical volume of exports will work in the direction of reducing American prices. How large the changes will be in any one year no one can guess, because exports and imports are so much affected by the size of harvests.

Next consider the prospects of domestic demand and domestic production, for the moment without reference to the influence which the future changes in the price level will have upon them. No one has yet made an adequate analysis of the quantity of goods we produce year by year, but enough evidence is available to show that the output of 1919 will average rather low. The production of pig iron and copper, and the unfilled orders of the Steel Corporation are not only far less than during the war, but also less than in 1913. Every month the Bureau of Labor Statistics reports the number of men on the pay rolls of identical establishments, about 600 in number, this

[39] *Review of Economic Statistics,* July, 1919, p. 254.

[40] Professor F. W. Taussig indeed expects "some continuing excess of merchandise exports over merchandise imports (in the decade 1920-30). But it would seem impossible [he adds] that the annual excess should be on the average at all so great as that of the decades preceding the war. In the end —supposing no new factors to enter before this final stage is reached—the accumulation of interest payments will bring about an excess of imports." *Quarterly Journal of Economics,* November, 1919, pp. 13, 14. Dr. H. Parker Willis also expects "a reduction in the movement of our goods abroad." Bankers Statistics Corporation, Weekly Service, November 18, 1919.

[41] See his letter of December 19, to the Chairman of the Ways and Means Committee of the House of Representatives.

year and last year. Every month so far the numbers have been less in 1919 than in 1918.[42] So too the number of employees in New York factories have run steadily behind last year's records. Professor Kemmerer has shown that the physical volume indices of the Federal Reserve Bulletin point to a similar conclusion.[43] Of course the business barometers that involve a price factor show new records. But when one makes allowance for inflated prices, comparisons generally turn against 1919. For example, building permits in twenty leading cities from January to October reached almost $600,000,000. But that figure does not represent nearly as much actual construction as the 469 millions in the same months of 1912. Even the enormous "outside" clearings when divided by the Bureau of Labor Statistics index shrink almost exactly to the figure they would present if the prewar rate of growth (minus the price factor) had been continued. In other words, such prosperity as we have had in 1919 has been business prosperity, not industrial prosperity. It represents high profits brought by active trading at rising prices, not by active production of useful goods. From the viewpoint of national welfare it is an illusion produced by multiplying the values of most commodities by two and a fraction. To see the fundamental facts in a true perspective we must first reduce current values to the prewar level of prices; second, allow for the restriction upon new construction and civilian supply during the war; and third, count in the large growth factor which has been and presumably will continue to be such a characteristic feature in American life.[44] On this basis it is safe to say that an enormous increase in physical production is called for, and will actually occur in the next few years. It may start in 1920 or it may be deferred by unfavorable developments, the possibility of which will be considered in a moment.

As already implied, domestic demand for commodities promises to increase. In view of the depleted stocks at the beginning of the year and the restricted production in 1919 it is doubtful whether American families have yet brought their supplies of clothing, household furnish-

[42] The number of employees reported in these comparisons has never been less than 572,000,—a fair-sized sample. See the current issues of the *Monthly Labor Review.*

[43] Bankers' Statistics Corporation, Weekly Service, Dec. 4, 1919.

[44] Professor Warren M. Persons has made definite measurements of this growth factor in several lines of development. See the equations of secular trend in the *Review of Economic Statistics,* January and April, 1919. These figures are exceptionally interesting.

ings, and the like up to their customary standards. Certainly a rise in these standards seems likely among farmers, who are finding their harvests very profitable despite rather low yields per acre. And if workingmen succeed in maintaining their wages and get fuller employment, their purchasing power is likely to rise more than the cost of living as soon as European agriculture recuperates, if not sooner. A fall of money wages seems unlikely both because of the great amount of work to be done and because of the decline in immigration. In 1913 the excess of immigrant arrivals over departures surpassed 1,100,000. From 1915 to 1918 this excess shrank to 127,000 per annum. In the months of 1919 so far reported the departures have actually exceeded the arrivals, and the excess of departures is expected to reach larger proportions in the immediate future. We are probably short by over two million the number of immigrant workers whom we might have expected to have amongst us had the war not occurred. This shortage means at least one person out of every twenty at work,—quite enough to have an appreciable effect upon the contest over wages. Of course people on fixed incomes are in a bad plight and their demand, though gaining somewhat, will continue restricted. But this item, though large absolutely, is small relatively. Salaries do not bulk large in total pay rolls, and one of the most significant facts brought out by income-tax reports is that income from bonds is less than one fifth of business profits plus dividends.[45]

If consumers' demand promises to expand, demand for new construction should become very large. Early this year the Division of Public Works and Construction Development secured from a questionnaire reports on nearly 6500 projects representing nearly a billion and three quarters dollars which had been planned but not constructed.[46] Of course the list was not complete at the time, and the arrears have grown greater during the year because building has been less than normal.

Nor should there be any lack of investment funds to finance a great increase in industrial equipment. In two years we spent twenty-two billions on the war and loaned to the Allies nine billions more.[47] That is, we paid ourselves for all the exports we sent to Europe after we

[45] Compare *Statistics of Income*, 1917, Internal Revenue Bureau, p. 13.

[46] *Economics of the Construction Industry*, p. 241.

[47] Compare Professor Seligman's careful summary of expenditures properly attributable to the war, *American Economic Review*, December, 1919, especially p. 757.

began the war and met our own bills as well.[48] Treasury borrowings may well continue, but they will be on a vastly reduced scale. This reduction together with a decline in the value of export credits will make several billions a year available for permanent investment at home. That remains true even though we look for some decline in current savings. The great rise in prices in 1916 and 1917 artificially swelled profits at the expense of incomes from personal services, bonds, and real estate. Such a change in the distribution of income enhances savings in this country, where savings are made largely by business enterprises themselves and by the recipients of large personal incomes. The lagging adjustments of wages have already narrowed the wide margins which created war profits and may well narrow them still further, with the effect of increasing consumers' demand and reducing the sum for investment. Professor David Friday, whose former estimates in this field have proved very successful, thinks that corporation profits in 1919 will run about seven and a half billions, as against nine and a half billions in 1918 and ten and a half billions in 1917. At bottom there is no question about our capacity to restore and extend the equipment of our railways, factories, and mines; for we have the requisite brains, hands, machines, and materials. All that is needed is courage and initiative in setting these waiting resources at work. Financial difficulties may retard somewhat, but they will not be permitted to prevent a consummation so devoutly to be wished.

Fundamental conditions, then, favor a marked increase of industrial activity and a continuation of the sellers' market we have had since last spring. We are producing at present far below capacity, and there is a vast demand for consumers' goods and new construction needing to be filled. What may postpone the revival of physical productivity to which these conditions point?

Industrial warfare on a grand scale would do it, whether provoked by a determined effort to "liquidate labor" or by ill-advised strikes, or by a low state of morale among both employers and workmen. We are certainly still in a quarrelsome temper and perhaps we shall not return to sanity until we have broken more of each other's heads. But it does not seem to me likely that this war fever after the war can run very much longer.

A severe panic followed by depression might postpone the industrial revival a year or more—not very long since instead of having the

[48] Compare F. W. Taussig, "The Present and Future of the International Trade of the United States," *Quarterly Journal of Economics*, November, 1919, p. 6.

superfluous stocks of consumers' goods and superfluous machinery left over by most crises we are short of goods. But what chance is there of a panic? Perhaps the most ominous sign is the low rate of business mortality in the last few years. High prices swell liabilities, yet ever since 1916 the total liabilities of failed firms have run well below the low record of prosperous 1912. In 1919 the liabilities have been especially small. This must mean that we have amongst us a large number of weak and wasteful enterprises with high costs, enterprises that have been kept going only by rising prices. As soon as this rise is checked we may expect an epidemic of overdue bankruptcies. Another danger is that the narrowing of the exceedingly wide war-profit margins among solvent enterprises may combine with rising interest rates to cause a drastic revision of credit ratings and start the process of liquidating loans. The speculative revival of last summer staved off these dangers for the moment, but made them more serious in the end. A resumption of that movement might precipitate a panic after a few months. But as matters stand I think that both of these dangers may be met successfully, if we have prudent management.

One factor of safety is the outflow of gold. In the first six months after the embargo was lifted the excess of gold exports over imports reached $275,000,000. The metal went mainly to Japan, Argentina, China, and other countries whose powers of absorption are not very great. I count this moderate outflow a factor of safety because it helps directly or indirectly to hasten the day when our bankers must adopt a more conservative policy. The Federal Reserve banks still have a considerable amount of gold in excess of their reserve requirements and their policy in 1919 holds out little hope that they will exert a steadying influence on business until they are forced to do so.

Much depends upon the wisdom and courage with which the Federal Reserve Board meets the problems that 1920 presents. That Board does not have great confidence in its power to control credit inflation by changing its discount rates. In the October *Bulletin* is expressed doubt "whether for a long time to come and taking the country as a whole, there will be any such connection of Federal Reserve Bank rates with the volume of credit in use as was to be noted, for example, in prewar days in England. . . . American business is, for the most part, done on liberal margins. . . . Such a condition does not make for sensitiveness to the influence of changing rates such as was the case in England, where much business is done on a narrow margin of profit. . . ."[49] All this is true, but when the Board did

[49] *Federal Reserve Bulletin,* October, 1919, p. 911.

raise its rates in New York on November 3 *and* insisted on closer scrutiny of loan applications, the contraction of credit was prompt and the consequences spectacular. We may hope that the Board will be encouraged by this episode to act more boldly in the future and in better season. Nor is this hope forbidden by the Board's assertion that "little desirable restraining influence could have been exercised" over the speculative campaign of the summer by an advance of rates. For the Board publishes opposite opinions about the same subject in the same bulletin often enough to suggest that it may change its majority views from one month to the next.

My guess is that the Federal Reserve Board will try hard to repress a recrudescence of speculation in 1920 and that they will succeed. They will support business ventures that promise an increase of production, and conserve their surplus reserve to meet the strains threatened by an increase of bankruptcies, by a mild downward revision of credit ratings, and by limited exports of gold. On that assumption the changes in the general level of prices will not be violent in either direction, barring an extraordinary change in world crops. Business will not be buoyant, for there are still many readjustments to be made that will involve months of difficult negotiations filled with anxiety. Public utilities will be struggling for rate advances; salary increases will be reluctantly granted under pressure by business enterprises and public authorities; contests over collective bargaining, wages, hours, working conditions and efficiency will be numerous; bankruptcies will mount to disquieting levels; bankers will be nervous and try to appear confident; large security issues will be offered; investors will be captious and demand high rates; agitation for economic reforms will be rife, and politics embittered. But amidst all these difficulties, business will be supported by a ground swell of gradually increasing output both of consumers' goods and industrial equipment and 1920 will close with a more confident outlook than that with which it begins.

It is quite possible, however, that our banking authorities will not insist firmly upon high discount rates and close scrutiny of the purposes for which bank loans are used, and it is possible that even vigorous efforts to check speculation will prove futile. There is complaint even in England that advances in bank rates do not have their prewar effectiveness upon business expansion. In either case the rise of prices will go on until the surplus reserves of the Federal Reserve Banks are exhausted. We are, indeed, not far from that point at present. Then will come a sudden check upon credit and a period of severe

financial strain, if not of panic. Industrial depression will follow and the revival will be postponed until 1921 or perhaps 1922.

When we take a longer look into the future of prices the problem of gold looms large. Present indications are that the world output of gold will not return to the high level of 1912 in the near future. On the other hand, the great commercial nations of Europe may seek to restore their gold standards. How soon such policies will develop and how great a draft they may make on our own stock of gold is most uncertain. We may be sure that many ingenious minds will try to invent some satisfactory substitute for the gold standard. There will be strong opposition to a return to the old gold content of the pound sterling, franc, and mark, because of the fall of prices and increased pressure of public debts which such changes would threaten. Bimetallism will find many champions. Finally, we may be sure that the changed habits with reference to the use of paper money and checks which the war has enforced will persist in considerable measure, and that the amount of gold required to resume specie payments under these conditions will bear a smaller ratio than formerly to the total currency.

What the outcome of these conflicting currents will be we cannot foresee. But it seems likely that at least two or three years will elapse before England, France, and Germany begin extensive preparations for resumption, and that when, and if, they resume they will take measures to prevent paying interest or principal of the war debt in money having vastly more purchasing power than the money they borrowed. Perhaps a world shortage of gold will be prevented. Great deposits of pay ore are mapped out in the Eastern Rand which is under government control. It is conceivable that a large increase in the output from this field will be planned to produce much of the metal required for resumption. There may be a concerted effort by European nations to avoid a relapse to a lower level of prices. One of the lessons of the war is that efforts to control the general fluctuations of prices when made by strong governments supported by public opinion have a better prospect of success than we used to believe. If Europe does go in for a policy of price maintenance American prices will be less likely to fall. Indeed the maintenance of something like the present level for years to come is not impossible. But the more conventional forecast, and the one more in accord with past experience, is that within one to three years prices will begin a checkered decline the world over under the combined influence of restored agri-

culture, active industry, keen competition in international trade, and European efforts to accumulate gold.

VI. The Need of Fundamental Changes in Monetary Systems

One cannot conclude a survey of the violent changes in prices during the war and of the grave uncertainties of the near future without reflecting upon the badness of the best existing monetary systems. The United States has maintained the gold standard without serious limitation and has reorganized its banking system on approved lines. Nevertheless we have had price fluctuations almost as violent as those of the greenback period. These fluctuations have caused unmerited suffering to millions of families and have heaped unearned riches upon thousands. They have caused wasteful struggles, encouraged extravagance among some, and created the class of "new poor." They have promoted speculation and reduced the efficiency of management and labor. We are poorer in goods, more quarrelsome in spirit, less ready to work because of these fluctuations. All this has happened and is irretrievable. But within a few years fresh changes may happen just as evil in their consequences. This wretched record and this wretched prospect are a grave indictment of our present form of economic organization. Have we not sufficient constructive imagination and practical sagacity to develop a better monetary system?